

Subject Index to Volume 37

A

- Acid**
extrusion from proximal tubule in pH_i regulation, effects of luminal and basolateral CO₂/HCO₃⁻, F179, F193
- Acid-base homeostasis**
hydrogen-potassium ATPase β -subunit expression in kidney, F363
renal metabolic alkalosis and hyperparathyroidism from sustained intravenous neutral phosphate loading, F802
- Acid-base transport mechanisms**
in proximal tubule S3 segment, acid extrusion and CO₂/HCO₃⁻ alkalinization in pH_i regulation, F179, F193
- Acidosis**
effects on injury-associated fatty acid accumulation in proximal tubule cells, F110
metabolic, basolateral, effects on potassium transport and transepithelial voltage in cortical collecting duct, F490
- Adenine nucleotide translocator**
renal mitochondrial, postischemic thyroxine effects on, F651
- Adenosine 3',5'-cyclic monophosphate**
see also **Protein kinases, PKA**
and β -adrenergic receptor subtypes in collecting tubules, F1070
coupling to β_1 -adrenergic receptors on proximal tubule epithelial cells, F553
effects on electrogenic chloride secretion in inner medullary collecting duct cell line mIMCD-K2, F854
effects on sodium channels in cortical collecting duct, F480
and endothelin effects on juxtaglomerular renin release, F39
role in angiotensin II-dependent, ANF-mediated transport inhibition in proximal nephron, F730
role in chloride and fluid transport in proximal tubule, F204
role in tumor necrosis factor- α regulation of transepithelial permeability, F315
role in vasopressin downregulation of endothelin-1 binding in cortical collecting ducts, F385
- Adenosine 3',5'-cyclic monophosphate phosphodiesterase**
protein kinase C activation in renal collecting tubules, F808
- Adenosine 5'-triphosphate**
cellular levels, relation to cellular P_i levels, F375
extracellular, renal arteriolar vasoconstriction from, role of calcium influx, F876
renal mitochondrial translocator activity, postischemic thyroxine effects on, F651
- Adenosinetriphosphatases, *see* P-Glycoprotein**
- Adenylate cyclase**
coupling to β_1 -adrenergic receptors on proximal tubule epithelial cells, F553
- Adenylate cyclase inhibitor**
effects on G protein inhibition of renal cortical Na-HCO₃ cotransporter, F461
- Adhesion molecules CD11/CD18**
and neutrophil-glomerular endothelial cell interactions, F1
- Adrenal gland**
angiotensin II receptor AT_{1A} and AT_{1B} subtypes, F220
angiotensin II receptor subtype AT₂, mRNA distribution during development, F922
- Adrenal steroids, *see* Corticosteroids**
- Adrenergic activity**
renal, glomerular and tubular interactions with nitric oxide, F1004
- β -Adrenergic receptors**
 β_1 , on proximal tubule epithelial cells, F553
subtypes in collecting tubules, F1070
- Adrenomedullin**
glomerular and tubular localization and renal actions, F657
- Aging**
effects on dopaminergic renal excretory responses to protein feeding, F613
effects on renal production of dopamine, F1087
- Albumin**
fatty acid-bearing, metabolic fate in proximal tubule cells, F1177
glycosylated, circulating, glomerular handling, F913
receptor-mediated endocytosis in proximal tubule cells, effects of endosomal pH, F899
- Aldosterone**
plasma levels, effects of peptide YY on, F754
and protein-induced dopaminergic renal excretory responses, aging effects on, F613
serum levels, time- and dose-related effects of indomethacin or meclofenamate, F468
- Alkalosis**
metabolic renal, and hyperparathyroidism from sustained intravenous neutral phosphate loading, F802
- Amiloride**
and pH_i regulation in thin ascending limb of Henle's loop, F410
- Amino acids**
and H⁺-peptide cotransport system in MDCK cells, F391
transport across renal brush-border membrane, role of protein kinases, F155
- p-Aminohippurate**
basolateral transporter in proximal tubule S3 segment, F1109
- p-Aminohippuric acid clearance**
drawbacks of constant-infusion technique, F543
- Angiotensin-converting enzyme inhibitors**
renal hemodynamic effects in diabetic hyperfiltration, role of kinins, F588
- Angiotensin II**
effects on [Ca²⁺]_i in proximal tubule cells, F330
effects on chloride transport in early proximal tubule, F723
effects on glomerular structure, morphometric analysis, F82
effects on renal microcirculation, and high-protein vs. low-protein diet, F302
generation in isolated glomerulus, mediation by renin-angiotensin system, F266
mitogenic effects in thick ascending limb, vs. effects on proximal tubule, F940
possible roles as growth factor in developing kidney and adrenal gland, F922
role in proximal nephron transport inhibition by atrial natriuretic factor, F730
role in renal hemodynamic effects of ACE inhibitors in diabetic hyperfiltration, F588
stimulation of tubuloglomerular feedback in hypertensive *ren-2* transgenic rats, F821
vertebral artery infusion, renal effects on plasma renin and central effects on urinary sodium, F296
- Angiotensin II receptors**
AT₁, regulation of renal growth factors and clusterin in neonatal ureteral obstruction, F1117
AT_{1A}, AT_{1B}, mRNA localization in kidney and presence in other organs, F220
AT₂, mRNA distribution in developing kidney and adrenal gland, F922
in temperature-sensitive SV40-immortalized proximal tubule cell line, F435
- Anion exchangers**
AE1, variant NH₂-terminal cytoplasmic domains, in chicken kidney and erythroid cells, F503
- Anions**
in urine, inhibition of calcium oxalate monohydrate crystal adhesion to renal epithelial cells, F604
- Antidiuretic hormone, *see* Vasopressin; Vasotocin**
- Apolipoproteins**
apo A1, catabolism sites and rate in nephrotic rat, F532
- Apoptosis**
in metanephroi of bcl-2-deficient mice, F73
- Aquaporins**
AQP-CHIP and AQP-CD, presence in cysts from autosomal dominant polycystic kidney, F398

Aquaporins (*continued*)

aquaporin-1, localization in nephron and renal vascular structures, F1023

L-Arginine

effects on blunted pressure-dependent changes in vasa recta blood flow and natriuresis in SHR, F907

Arginine vasopressin, *see* **Vasopressin****Arginine vasotocin**, *see* **Vasotocin****Arteries**

arcuate preglomerular, autoregulatory responses, effects of cGMP-dependent dilators on, F338

Arterioles

afferent renal, vasoconstrictor response to ATP, role of calcium influx, F876
juxtaglomerular afferent, autoregulatory responses, effects of cGMP-dependent dilators on, F338

Atrial natriuretic peptide (factor)

chloride channel activation, in proximal convoluted tubule, role of cGMP, F323

effects on kidney, changes during pregnancy, F416

fetal levels after hypoxemia from reduced uterine blood flow vs. maternal N₂ inhalation, F868

transport inhibition in proximal nephron, role of angiotensin II, F730

Autoregulation

see also **Kidney, tubuloglomerular feedback**

in preglomerular vasculature, interaction with cGMP-dependent dilators, F338

Awards, *see* **Honors****B****Barium chloride**

effects on basolateral membrane potential, and cellular P_i levels, F375

Barium ion

blockade of renal tubular K channels, effects on tubuloglomerular feedback, F960

reabsorption in proximal convoluted tubule and effects on potassium reabsorption, F778

Baroreceptors

renal, role in effects of vertebral artery-infused angiotensin II, F296

Barrier function, *see* **Permeability****Bcl-2 oncogene**

absence-induced metanephric apoptosis and kidney maldevelopment, F73

Betaine

osmotic regulation, F983

Bicarbonate

proximal tubular reabsorption, and pH_i regulation mechanisms, F179, F193
renal sodium-bicarbonate cotransporter, role of G proteins in regulation, F461

transport in loop of Henle, role of adrenal steroids, F234

Blood flow

intrarenal distribution, relation to renal perfusion pressure, F404

renal

autoregulation, time- and dose-related effects of indomethacin, F468
measuring with miniature ultrasonic transit-time flow probes, F175

method for continuous drug infusion into renal artery of rat in vivo, F967

Blood pressure

effects of intrarenal adrenomedullin infusion, F657

effects of vertebral artery-infused angiotensin II, F296

fetal, after hypoxemia from reduced uterine blood flow vs. maternal N₂ inhalation, F868

renal regulation, intrarenal regional blood flow and renal perfusion pressure, F404

time- and dose-related effects of indomethacin or meclofenamate, F468

Brain

striatum, vs. renal proximal tubule, fenoldopam effects on protein phosphatase 1, F279

Brush-border membranes, *see* **Membranes, brush-border****Brushite**

crystal adhesion to renal epithelial cells, inhibition by urinary anions, F604

Buffers

intracellular, in proximal tubule S3 segment, F179, F193

C**Caffeine**

effects on calcium receptors and [Ca²⁺]_i in osteoclasts, F447

Calcium-ATPase

of endoplasmic reticulum, role in glucose modulation of renal [Ca²⁺]_i, F671
in thin ascending limb of Henle's loop, F1148

Calcium/calmodulin-dependent protein kinase II

effects on cortical collecting duct K⁺ channels, F211

Calcium channels

in thin ascending limb of Henle's loop, F1148

L-type, presence at renal resistance artery bifurcations, hemodynamic role, F251

β-subunits, characterization in distal convoluted and connecting tubules, F525

voltage-dependent, role in parathyroid hormone-induced rise in [Ca²⁺]_i in proximal tubule cells, F330

voltage-gated L-type, role in renal afferent arteriolar vasoconstriction from ATP, F876

Calcium ion

and β-adrenergic receptor subtypes in collecting tubules, F1070

effects on injury-associated fatty acid accumulation in proximal tubule cells, F110

extracellular

and ATP- and UTP-evoked [Ca²⁺]_i transients in cortical thick ascending limb, F496

effects on 8-(4-chlorophenylthio)-cAMP-induced Ca²⁺ increase in cortical collecting duct, F480

influx, role in renal microvascular response to extracellular ATP, F876

intracellular

in Bowman's capsule, effects of endothelin and platelet-activating factor vs. carbachol, F1053

in cortical collecting duct, effect of prostaglandins on, F145
dynamics in thin ascending limb of Henle's loop, F1148

and effects of cAMP on Na⁺ channels in cortical collecting duct, F480
glucose modulation in kidney cells, role of endoplasmic reticulum Ca²⁺-ATPase, F671

in osteoclasts, caffeine effects on, F447
parathyroid hormone-induced rise, in proximal tubule cells, mechanisms, F330

in thick ascending limb, ATP- and UTP-evoked entry, F496

mobilization by vasopressin-activated receptor in renal medulla, F1198

role in endothelin effects on juxtaglomerular renin release, F39
and Na⁺ entry into distal convoluted tubule cells, F89

Calcium oxalate monohydrate

crystal adhesion to renal epithelial cells, inhibition by urinary anions, F604

Calcium phosphate

crystal adhesion to renal epithelial cells, inhibition by urinary anions, F604

Calcium pump, *see* **Calcium-ATPase****Calcium receptors**

in osteoclasts, caffeine effects on, F447

Calmodulin antagonists

effects on H⁺-dependent glycylsarcosine uptake in MDCK cells, F391

Carbachol

actions on parietal sheet of renal glomerulus, F1053

Carbon dioxide/bicarbonate

effect on acid extrusion in proximal tubule pH_i regulation, F179, F193

CD11/CD18 adhesion molecules

and neutrophil-glomerular endothelial cell interactions, F1

Cell adhesion

during neutrophil-glomerular endothelial cell interactions, F1

Cell death, *see* **Apoptosis****Cell volume regulation**

AE1 anion exchangers in, variant NH₂-terminal cytoplasmic domains in chicken, F503

cortical collecting duct Na⁺ channels, feedback regulation and response to cAMP, F480

effect of hyposmolality on apical high-conductance K channels in collecting tubule, F569

regulatory volume decrease, and taurine permeability of proximal tubule basolateral membrane, F595

Chemotaxis

hepatocyte growth factor-mediated, requirement for phosphatidylinositol 3-kinase, F1211

Chloride/base exchange

in superficial vs. juxtamedullary nephrons of proximal convoluted tubule, F847

Chloride/bicarbonate exchange

role in electrogenic chloride secretion in inner medullary collecting duct cell line mIMCD-K2, F854

Chloride channels

- apical vs. basolateral, in proximal tubule, F204
- cGMP-activated, in proximal convoluted tubule cells, F323
- in inner medullary collecting duct cell line mIMCD-K2, F347

Chloride ion

- in inner medullary collecting duct cell line mIMCD-K2
- electrogenic secretion, stimulation by vasopressin and cAMP, F854
- electrogenic transport, F347
- intracellular, and vasotocin effects on distal nephron whole cell currents, F64
- and sodium entry into distal convoluted tubule cells, F89
- role in variable renal response to cyclooxygenase inhibition, F561
- and taurine permeability of proximal tubule basolateral membrane, F595
- transport
- cAMP-stimulated, in proximal tubule, F204
- mechanisms in early proximal tubule, F723
- vasopressin effects on conductance in luminal and basolateral cortical collecting duct, F20

Circadian rhythm

- in kidney function, effects on inulin and *p*-aminohippuric acid clearance, F543

Clusterin

- in neonatal ureteral obstruction, regulation by AT₁ receptors, F1117

Collagen

- production by mesangial cells, effects of periodic high extracellular glucose, F13

Comparative physiology

- renal distribution of constitutive NO synthase isoforms in various mammalian species, F885

Complement

- component C5, effects on neutrophil-glomerular endothelial cell interactions, F1
- depletion, effects on inflammation and immune-mediated glomerulonephritis, F258

Corticosteroids

- role in bicarbonate absorption in loop of Henle, F234

Countercurrent multiplication

- mathematical model of renal inner medulla, F680

Cyclooxygenase inhibition

- acute, effects on renal hemodynamics and blood flow autoregulation, F468
- renal responses to, role of chloride, F561

Cyclosporin analogue

- P-glycoprotein-mediated proximal tubular secretion, F46

Cystic fibrosis transmembrane conductance regulator

- role in electrogenic chloride secretion in inner medullary collecting duct cell line mIMCD-K2, F854

D**Daunomycin**

- proximal tubular transepithelial secretion, effect of heat shock, F135

Dehydration

- inner medullary collecting duct adaptations, F53

Development, see Maturation**Diabetes**

- hyperglycemic glomerular dysfunction and proteinuria, role of glycosylated serum proteins, F913
- nephropathy, periodic high extracellular glucose and mesangial cell collagen production, F13
- renal hyperfiltration in, renal hemodynamic effects of ACE inhibitors and role of kinins, F588

1,2-Diacylglycerol formation in mesangial cells, role of phosphatidic acid, F997**Dietary components**

- phosphate, regulation of renal Na-P_i cotransporter, F626
- protein, effects on renal function and renal microcirculatory effects of angiotensin II, F302
- sodium
- effects on endogenous lithium clearance, F718
- effects on protein-induced dopaminergic renal excretory responses, aging effects on, F613

Dietary deficiencies

- inorganic phosphates, effects on renal Na⁺-P_i cotransporter in X-linked *Hyp* mice, F1062
- low-protein diet, effects on urea transport in inner medullary collecting ducts, F1218
- potassium, effects on ouabain-sensitive K⁺-ATPase in rat nephron, F1141
- 1 α ,25-(OH)₂D₃, in uremia, and kinetics of extrarenal 1 α -hydroxylase, F746

Dopamine

- effects on protein phosphatase 1 and Na⁺-K⁺-ATPase in proximal tubule, F279
- production by kidney, effects of aging on, F1087
- protein-induced dopaminergic renal excretory responses, aging effects on, F613

Dopamine receptors

- D_{1A}
- localization in rat kidney, F1185
- in renal epithelial LLC-PK₁ cells, F423
- DA₁, in proximal tubules, photoaffinity labeling differences in normotensive rat and SHR, F1009

E**Early gene expression, see Protooncogenes****Eicosanoids**

- synthesis during neutrophil-glomerular endothelial cell interactions, F1

Embryo

- metanephric apoptosis and kidney maldevelopment in *bcl-2*-deficient mice, F73

Endocytosis

- of β_2 -microglobulin in proximal tubule cells, endosomal convergence of apical and basolateral pathways, F829
- of Na-P_i cotransporter in proximal tubule brush-border membrane, F784

- receptor-mediated vs. fluid-phase, in proximal tubule cells, effects of endosomal pH, F899

Endoplasmic reticulum

- Ca²⁺-ATPase, role in glucose modulation of renal [Ca²⁺]_i, F671

Endosomes

- alkalinization, effects on receptor-mediated albumin endocytosis in proximal tubule cells, F899

Endothelial cells

- interactions with leukocytes, in glomeruli, lipoxygenase product formation and cell adhesion, F1

Endothelial growth factor

- vascular, sites of expression in fetal and adult kidney, F240

Endothelin receptors

- ET_A and ET_B, roles in renal hemodynamics and sodium excretion, F455
- ET_B, vasopressin downregulation in cortical collecting ducts, F385
- and juxtaglomerular renin release, subtype involved, F39

Endothelins

- actions on parietal sheet of renal glomerulus, F1053

ET-1

- renal effects, roles of endothelin receptor subtypes ET_A and ET_B, F455
- vasopressin effects on binding to ET_B receptor in cortical collecting ducts, F385

- ET-1, ET-2, ET-3: and renin release from juxtaglomerular cells, F39

Endothelium

- vascular, renal distribution of constitutive NO synthase isoforms in various mammalian species, F885

Endotoxin

- effects on nitric oxide synthase expression in inner medullary collecting duct cells, F770

Energy metabolism

- mitochondrial enzymes in newborn proximal convoluted tubule, developmental regulation by thyroid hormones, F634

Epidermal growth factor

- inhibition of sodium gradient-dependent phosphate transport in opossum kidney epithelial cells, F309
- in neonatal ureteral obstruction, regulation by AT₁ receptors, F1117
- renal, stimulation by triiodothyronine, F128
- transcription regulation by upstream promoter, F664

Epithelial cells, renal

- from autosomal dominant polycystic kidney, presence of water channel proteins, F398
- of collecting duct
- electrogenic chloride secretion, cellular mechanisms, F854
- potassium transport and transepithelial voltage, effects of basolateral acidosis, F490
- principal cells, sodium channels, feedback regulation and response to cAMP, F480
- crystal adhesion, inhibition by urinary anions, F604
- of distal nephron, vasotocin effects on whole cell currents, F64

Epithelial cells, renal (*continued*)

- glomerular
 - angiotensin II-induced changes, morphometric analysis, F82
 - interleukin 1 β effects on laminin B2 chain mRNA and nuclear factor κ B, F273
 - tight junction formation, tyrosine phosphorylation of protein ZO-1, F514
 - glucose modulation of $[Ca^{2+}]_i$, role of endoplasmic reticulum Ca^{2+} -ATPase, F671
 - LLC-PK₁, D_{1A} dopamine receptor gene, F423
 - membrane polarity, problems with cell surface biotinylation protocol, F285
 - from opossum kidney tubules, epidermal growth factor inhibition of Na-P_i cotransport in, F309
 - permeability, regulation by tumor necrosis factor- α , role of cAMP and protein kinase A, F315
 - proximal tubular
 - β_1 -adrenergic receptors on, F553
 - guanosine 3',5'-cyclic monophosphate-activated Cl⁻ channel, F323
 - H₂O₂ damage, role of lipid peroxidation, F30
 - renal tubular, peptide transport in, H⁺-dependent, calmodulin-regulated system in MDCK cells, F391
- 5,6-Epoxyeicosatrienoic acid**
effects on ion transport in collecting duct and role of prostaglandins, F931
- Erythroid band 3 protein, see Anion exchangers, AE1**
- Excretory transport systems**
P-glycoprotein-mediated proximal tubular secretion of cyclosporin analog, F46

F**Fatty acids**

- albumin-bound, metabolic fate in proximal tubule cells, F1177
 - unesterified, injury-associated accumulation in proximal tubule cells, F110
- Feedback mechanisms**
in cortical collecting duct sodium channels, response to cAMP, F480
- tubuloglomerular
angiotensin II dependence in hypertensive *ren-2* transgenic rats, F821
- and cGMP-dependent dilator effects on preglomerular vasculature, F338
- effects of K channel blockade with barium, F960
- instantaneous and steady-state measures of open-feedback-loop gains, F163

Fetus

- angiotensin II AT₂ receptors, mRNA distribution in developing kidney and adrenal gland, F922
- cortisol infusion, effects on postnatal maturation of renal cortical Na⁺/H⁺ exchanger, F710
- endocrine levels and urine production after hypoxemia from reduced uterine blood flow vs. maternal N₂ inhalation, F868

- expression of vascular endothelial growth factor and its receptors in meso- and metanephros, F240

Fluids

- see also Water*
- transport in proximal tubule, adenosine 3',5'-cyclic monophosphate effects on, F204
- urinary excretion atrial natriuretic peptide effects on, changes in pregnancy, F416

Food intake

- postprandial natriuresis, and peptide YY effects on renal function, F754

Free radicals, see Reactive oxygen species**G****G proteins**

- role in parathyroid hormone-induced rise in $[Ca^{2+}]_i$ in proximal tubule cells, F330
- subunits G α_s , G α_{12} , G α_{13} , role in regulation of renal cortical Na-HCO₃ cotransporter, F461

Genes

- alternative splicing
 - ROMK isoforms of inwardly rectifying and ATP-sensitive K⁺ channels, distribution in nephron, F1132
 - and transcriptional initiation, variant NH₂-terminal domains in chicken AE1 anion exchangers, F503
- cloned dietary phosphate-regulated rabbit renal Na-P_i cotransporter, F626
- mesangial cell activated phenotype, CARG box motifs regulating smooth muscle α -actin promoter, F760
- renal Na-P_i cotransporter in mouse, cloning, genetic mapping, and expression analysis, F1038

Gestation

- see also Embryo; Fetus*
- effects on renal responses to atrial natriuretic factor, F416

Glomeruli, see under Kidney**Glucocorticoids**

- effects on ontogeny of sodium/hydrogen exchangers NHE1 and NHE3 in renal cortex, F815
- prenatal infusion, effects on postnatal maturation of renal cortical Na⁺/H⁺ exchanger, F710
- role in bicarbonate absorption in loop of Henle, F234
- upregulation of Na-K-ATPase α and β subunits in proximal tubule cell, F862

Gluconeogenesis

- defects in murine *Hyp* homologue of X-linked hypophosphatemia, F357

Glucose

- extracellular levels, effects of periodic highs on mesangial cell collagen production, F13
- modulation of renal $[Ca^{2+}]_i$, role of endoplasmic reticulum Ca^{2+} -ATPase, F671

Glycerophosphocholine

- osmotic regulation, F983

Glycine

- effects on injury-associated fatty acid accumulation in proximal tubule cells, F110

P-Glycoprotein

- and heat-shock-stimulated proximal tubular daunomycin secretion, F135
- role in proximal tubular secretion of cyclosporin analog, F46

Glycosylation

- of serum proteins, role in hyperglycemic glomerular dysfunction and proteinuria, F913

Granulocyte-macrophage colony-stimulating factor

- effects on neutrophil-glomerular endothelial cell interactions, F1

Guanine nucleotide-binding proteins, see G proteins**Guanosine 3',5'-cyclic monophosphate**

- activation of Cl⁻ channels in proximal tubule epithelial cells, F323
- atrial natriuretic peptide effects on, changes in pregnancy, F416
- role in angiotensin II-dependent, ANF-mediated transport inhibition in proximal nephron, F730
- role in renal preglomerular vascular autoregulation, F338

H**Heart rate**

- effects of intrarenal adrenomedullin infusion, F657

Heat stress

- effect on transepithelial daunomycin secretion in proximal tubule, F135

Hebert, Steven C.

- 1995 recipient of Carl W. Gottschalk Distinguished Lectureship (announcement), F356

Hemodynamics

- renal
 - dietary protein level and renal microcirculatory effects of angiotensin II, F302
 - time- and dose-related effects of indomethacin, F468
- L-type calcium channels at resistance artery bifurcations, F251

Hemorrhage

- hypotension from, myoglobin nephrotoxicity during, role of capillary blood flow changes, F839

Hepatocyte growth factor

- chemotaxis and tubulogenesis from, requirement for phosphatidylinositol 3-kinase, F1211

Honors

- Carl W. Gottschalk Distinguished Lectureship, Steven C. Hebert as 1995 recipient (announcement), F356
- Robert W. Berliner Award for Excellence in Renal Physiology, Heinz Valtin as 1995 recipient, F541

Hydrogen ion transport

- in proximal tubule pH_i regulation, effects of luminal and basolateral CO₂/HCO₃⁻, F179, F193

Hydrogen-peptide cotransport

- in MDCK cells, expression and calmodulin dependence, F391

Hydrogen peroxide

- proximal tubular epithelial cell injury from, role of lipid peroxidation, F30

Hydrogen-potassium ATPase

gastric and colonic isoforms, presence in kidney, F581

α -subunit mRNA, cellular distribution in kidney, F99

β -subunit, renal and gastric expression, F363

Hydrogen, see Sodium-hydrogen exchange**1 α -Hydroxylase**

extrarenal, and 1 α ,25-(OH) $_2$ D $_3$ deficiency in uremia, F746

Hyperparathyroidism

from sustained intravenous neutral phosphate loading, F802

Hyperplasia

vs. hypertrophy, renal, after unilateral vs. subtotal nephrectomy, F793

Hypertension

blunted pressure-dependent changes in vasa recta blood flow and natriuresis in SHR, effects of L-arginine, F907

salt-sensitive, and chloride role in variable renal response to cyclooxygenase inhibition, F561

Hyperthyroidism

and triiodothyronine stimulation of renal epidermal growth factor, F128

Hypertrophy

vs. hyperplasia, renal, after unilateral vs. subtotal nephrectomy, F793

Hypophosphatemia

X-linked, murine *Hyp* homologue, osteoblast phenotype abnormalities (review), F357

Hypophysectomy

and triiodothyronine stimulation of renal epidermal growth factor, F128

Hypotension

hemorrhagic, myoglobin nephrotoxicity during, role of capillary blood flow changes, F839

Hypotonicity

effects on taurine permeability of proximal tubule basolateral membrane, F595

Hypoxemia

fetal, from reduced uterine blood flow vs. maternal N $_2$ inhalation, effects on fetal hormones and urine production, F868

Hypoxia

proximal tubule injury from, fatty acid accumulation and membrane damage, F110

I**Iloprost**

effects in cortical collecting ducts, F145

Indomethacin

time- and dose-related effects on renal hemodynamics and blood flow autoregulation, F468

Inflammation

acute, role in postnephritis glomerulosclerosis, F258

mediators, and neutrophil-glomerular endothelial cell interactions, F1

Inositol

osmotic regulation, F983

Inositol 1,4,5-trisphosphate receptors

different types in rat kidney, F1046

Interferons

IF- γ , effects on nitric oxide synthase expression in inner medullary collecting duct cells, F770

Interleukins

IL-1 β , effects on glomerular laminin B2 chain mRNA and nuclear factor κ B, F273

IL-8, effects on neutrophil-glomerular endothelial cell interactions, F1

Inulin clearance

drawbacks of constant-infusion technique, F543

Inulin clearance, see Glomerular filtration rate**Ion conductances**

vasopressin effects in luminal and basolateral cortical collecting duct, F20

Ion transport

in collecting duct, effects of 5,6-epoxyeicosatrienoic acid, role of prostaglandins, F931

Ischemia

renal

effects on epidermal growth factor transcription, from interruption of upstream promoter, F664
mitochondrial ATP production after, thyroxine effects on, F651

K **α -Ketoglutarate**

interaction with basolateral organic anion transporter in renal S3 proximal tubule, F1109

Ketone bodies

oxidative enzymes in newborn proximal convoluted tubule, developmental regulation by thyroid hormones, F634

Kidney

see also **Kidney cells; Kidney diseases**

adrenomedullin glomerular and tubular localization and renal actions, F657

afferent arterioles, vasoconstrictor response to ATP, role of calcium influx, F876

angiotensin II receptors

AT $_{1A}$ and AT $_{1B}$ subtypes, mRNA localization, F220

AT $_2$ subtype, mRNA distribution during development, F922

baroreceptor, role in effects of vertebral artery-infused angiotensin II, F296

blood flow, measuring with miniature ultrasonic transit-time flow probes, F175

Bowman's capsule parietal sheet, target for endothelin and platelet-activating factor, F1053

brush-border membrane, proline transport across, role of protein kinases, F155

cellular distribution of H $^+$ -K $^+$ -ATPase α -subunit mRNA, F99

collecting ducts

AE1 anion exchangers in, variant NH $_2$ -terminal cytoplasmic domains in chicken, F503

hepatocyte growth factor-mediated growth, requirement for phosphatidylinositol 3-kinase, F1211

hydrogen-potassium ATPase β -subunit expression, F363

collecting ducts, cortical endothelin-1 binding in, vasopressin effects on, F385

5,6-epoxyeicosatrienoic acid effects on ion transport and role of prostaglandins, F931

luminal prostaglandin E $_2$ effects on Na $^+$ and water transport, F1093

potassium transport in, effects of basolateral metabolic acidosis, F490

prostaglandin receptors in, F145

vasopressin role in luminal and basolateral ion conductances, F20

collecting ducts, medullary adaptation to dehydration, paracellular transport pathways, F53

inner medullary, nitric oxide synthase expression in, endotoxin and cytokine effects on, F770

inner medullary, urea transport in, effects of low-protein diet, F1218

collecting tubules

β -adrenergic receptor subtypes in, F1070

cortical, apical high-conductance K channels in, effect of hyposmolarity on, F569

medullary, protein kinase C-stimulated activation of cAMP phosphodiesterase, F808

compensatory growth

after uninephrectomy, effect on metallothionein gene transcription, F643

after unilateral vs. subtotal nephrectomy, protooncogene expression and hypertrophy vs. hyperplasia, F793

continuous drug infusion into renal artery of rat in vivo, F967

coordinate regulation of parathyroid hormone receptor and Na-P $_i$ cotransporter, F1017

cortex

sodium-bicarbonate cotransporter, role of G proteins in regulation, F461

sodium/hydrogen exchangers NHE1 and NHE3, ontogeny and effects of glucocorticoids, F815

diabetic hyperfiltration, renal hemodynamic effects of ACE inhibitors and role of kinins, F588

distribution of constitutive NO synthase isoforms in various mammal species, F885

dopamine D $_{1A}$ receptor localization, F1185

dopamine production, effects of aging on, F1087

epidermal growth factor, stimulation by triiodothyronine, F128

function

dietary protein-induced changes, aging effects on, F613

effects of peptide YY, in normal humans, F754

measuring by constant-infusion technique, drawbacks, F543

glomerular and tubular interactions between adrenergic activity and nitric oxide, F1004

glomerular filtration rate, effects of dietary protein level, F302

Kidney (*continued*)

- glomerular pressure, errors in estimating from macromolecule sieving data, F736
- glomerulus
 - angiotensin II-induced changes, morphometric analysis, F82
 - angiotensin II production in, mediation by renin-angiotensin system, F266
 - capillary network, heterogeneous vs. conventional model, F972
 - handling of circulating glycosylated albumin, F913
 - tight junction formation, tyrosine phosphorylation of protein ZO-1, F514
- hemodynamics
 - dietary protein level and renal microcirculatory effects of angiotensin II, F302
 - and sodium excretion, roles of endothelin receptor subtypes, F455
 - time- and dose-related effects of indomethacin, F468
- Henle's loop
 - bicarbonate transport, role of adrenal steroids, F234
- Henle's loop, thick ascending limb
 - calcium-elevating nucleotide receptors, F496
- medullary segment, Na^+/H^+ exchanger isoforms expressed, F1224
- vs. proximal tubule, differing growth-inducing effects of angiotensin II, F940
- vs. proximal tubule, fenoldopam effects on protein phosphatase 1, F279
- Henle's loop, thin ascending limb
 - amiloride-sensitive Na^+/H^+ antiporter and pH_i regulation, F410
- dynamics of cytosolic Ca^{2+} , F1148
- hydrogen-potassium-ATPase gastric and colonic isoforms, F581
- inositol 1,4,5-trisphosphate receptors, F1046
- ischemia
 - effects on epidermal growth factor transcription, from interruption of upstream promoter, F664
 - mitochondrial ATP production after, thyroxine effects on, F651
- juxtaglomerular apparatus, ontogeny of NO synthase and renin, F1164
- juxtaglomerular renin secretion
 - NO effects in perfused juxtaglomerular apparatus, F953
 - NO effects on isolated granular cells, F948
- juxtamedullary preglomerular vasculature, effects of cGMP-dependent dilators on autoregulatory responses, F338
- macula densa, role in effects of vertebral artery-infused angiotensin II, F296
- medulla
 - mathematical model of concentrating mechanism, F680, F693
 - mathematical model of concentrating mechanism, effect of vasa recta flow, F698
 - organic osmolyte response to water loading and water deprivation, F227
 - osmolyte regulation, molecular basis (Cannon lecture), F983
 - vasopressin-activated, calcium-mobilizing receptor, F1198
- metanephroi, fulminant apoptosis in bcl-2-deficient mice, F73
- microcirculation changes, role in myoglobin nephrotoxicity during hemorrhagic hypotension, F839
- nephron
 - distal, distribution of ROMK1 inwardly rectifying, ATP-sensitive K^+ channel, F1124
 - distribution of ROMK isoforms of inwardly rectifying and ATP-sensitive K^+ channels, F1132
 - juxtamedullary vs. subcapsular, maturation, F634
 - leukocyte common antigen-related protein mRNA distribution in rat, F1102
 - ouabain-sensitive K^+ -ATPase, distribution and properties, F1141
 - and vascular structures, localization of aquaporin-1 water channels, F1023
- pressure-dependent changes in vasa recta blood flow and natriuresis, blunting in SHR, effects of L-arginine, F907
- regional blood flow, pressure dependency within autoregulation range, F404
- resistance arteries, L-type calcium channels at bifurcations, hemodynamic role, F251
- responses to atrial natriuretic factor, effects of pregnancy on, F416
- sodium-potassium cotransporter, in X-linked *Hyp* mice, effects of dietary P_i restriction, F1062
- tubules
 - analysis of lithium (letter), F1229
 - early proximal convoluted, chloride transport mechanisms, F723
- tubules, distal convoluted and connecting, calcium channel β -subunits, characterization, F525
- tubules, proximal
 - cAMP-stimulated Cl^- transport, F204
 - clearance of endogenous vs. exogenous lithium and effects of dietary sodium levels, F718
 - dopamine, protein phosphatase 1, and Na^+ - K^+ -ATPase relations, F279
 - dopamine DA_1 receptors, photoaffinity labeling differences in normotensive rat and SHR, F1009
 - inorganic phosphates, cellular levels and membrane transport, F375
 - P-glycoprotein-mediated secretion of cyclosporin analog, F46
 - reabsorption, roles of adrenergic activity and NO, F1004
 - role in endothelin-mediated renal functions, F455
 - S3 segment, basolateral organic anion transporter, F1109
 - S3 segment, pH_i regulation, $\text{CO}_2/\text{HCO}_3^-$ effect on acid extrusion, F179, F193
 - sodium/hydrogen exchanger, postnatal maturation, effects of prenatal cortisol on, F710
- sodium-phosphate cotransport, in brush-border, defects in murine X-linked hypophosphatemia (review), F357
- sodium-phosphate cotransporter, dietary phosphate-regulated, F626
- sodium-phosphate cotransporter, parathyroid effects on, F784
- sodium-phosphate cotransporter, in mouse: cloning, genetic mapping, and expression analysis, F1038
- straight segment, transport inhibition by atrial natriuretic factor, role of angiotensin II, F730
- transepithelial daunomycin secretion, effect of heat shock, F135
- tubules, proximal convoluted
 - basolateral membrane permeability to taurine, effects of hypotonicity, F595
 - chloride/base exchange in superficial vs. juxtamedullary nephrons, F847
 - diffusional potassium reabsorption, F778
 - mitochondrial oxidative enzymes in newborn, regulation by thyroid hormones, F634
- tubuloglomerular feedback
 - angiotensin II dependence in hypertensive *ren-2* transgenic rats, F821
 - effects of K channel blockade with barium, F960
 - instantaneous and steady-state measures of open-feedback-loop gains, F163
- ureters, obstruction in newborn, regulation of renal growth factors and clusterin by angiotensin AT_1 receptors, F1117
- variable response to cyclooxygenase inhibition, role of chloride, F561
- vascular endothelial growth factor and its receptors, sites of, in fetus and adult, F240

Kidney cells

- of collecting duct
 - cGMP production, atrial natriuretic peptide effects during pregnancy, F416
- cell line mIMCD-K2, cellular mechanisms of electrogenic Cl^- secretion, F854
- cell line mIMCD-K2, electrogenic Na^+ and Cl^- transport in, F347
- principal cell K^+ channels, Ca^{2+} /calmodulin-dependent protein kinase II effects on, F211
- principal cell Na^+ channels, feedback regulation and response to cAMP, F480
- of distal nephron, vasotocin effects on whole cell currents, F64
- epithelial
 - adherence of calcium oxalate monohydrate crystals, inhibition by urinary anions, F604
 - glucose modulation of $[\text{Ca}^{2+}]_i$, role of endoplasmic reticulum Ca^{2+} -ATPase, F671
 - LLC-PK₁, D_{1A} dopamine receptor gene, F423
- glomerular
 - epithelial, interleukin 1β effects on laminin B2 chain mRNA and nuclear factor κB , F273

endothelial, neutrophil interactions, lipoxygenase product formation and cell adhesion, F1

juxtaglomerular, renin release from, relative potencies of endothelins, F39

mesangial

- collagen production by, effects of periodic high extracellular glucose, F13
- differential gene expression. CARG box motifs regulating smooth muscle α -actin promoter, F760
- identification of serotonin receptor 5-HT_{2A} subtype, F122
- nitric oxide effects on cytosolic K⁺, F1081
- serotonin activation of phospholipase D, F997

tubular, distal convoluted, sodium entry mechanisms, F89

tubular, epithelial

- epidermal growth factor inhibition of Na-P_i cotransport in, F309
- peptide transport in, H⁺-dependent, calmodulin-regulated system in MDCK cells, F391

tubular, proximal

- cytoresistance from protein synthesis blockade, F1154
- epithelial, H₂O₂ damage, role of lipid peroxidation, F30
- epithelial, β_1 -adrenergic receptors on, F553
- epithelial, cGMP-activated Cl⁻ channel, F323
- fatty acids, injury-associated accumulation, F110
- fatty acids, albumin-bound, metabolic fate, F1177
- glucocorticoid upregulation of Na-K-ATPase α and β subunits, F862
- β_2 -microglobulin endocytosis, endosomal convergence of apical and basolateral pathways, F829
- parathyroid hormone-induced rise in [Ca²⁺]_i, mechanisms, F330
- receptor-mediated albumin endocytosis, effects of endosomal pH, F899
- temperature-sensitive SV40-immortalized cell line, F435

Kidney diseases

- autosomal dominant polycystic kidney, water channel proteins in cyst epithelial cells, F398
- constant-infusion technique for measuring renal function, drawbacks, F543
- glomerulonephritis

 - immune-mediated, glomerulosclerosis after, role of early inflammation, F258
 - role of lipoxygenase products from neutrophil-glomerular endothelial cell interactions, F1

- glomerulosclerosis, after anti-glomerular basement membrane nephritis, role of acute inflammatory phase, F258
- model for renal hypoplastic disease, bcl-2-deficient mouse, F73
- nephrotic syndrome, effects on apolipoprotein AI catabolism in rat, F532
- proteinuria, metabolic fate of albumin-bound fatty acids, F1177

stones, crystal adhesion to renal epithelial cells, inhibition by urinary anions, F604

Kidney failure

acute

- 'acquired resistance', effects of protein synthesis inhibition, F1154
- and effects of ischemia on epidermal growth factor transcription promoter, F664
- 1,25-(OH)₂D₃ deficiency, and kinetics of extrarenal 1 α -hydrolase, F746
- chronic, dietary protein level and renal microcirculatory effects of angiotensin II, F302

Kinins

- role in renal hemodynamic effects of ACE inhibitors in diabetic hyperfiltration, F588

L

Laminin

- B2 chain, interleukin 1 β -induced mRNA levels in glomerular epithelial cells and role of nuclear factor κ B, F273

Leukocyte common antigen-related protein

- mRNA distribution along rat nephron segments, F1102

Leukocytes

see also **Monocytes; Neutrophils**

- endothelial interactions, in glomeruli, lipoxygenase product formation and cell adhesion, F1

Leukotrienes

- and neutrophil-glomerular endothelial cell interactions, F1

Lipid peroxidation

- role in proximal tubular epithelial cell injury from H₂O₂, F30

Lipoproteins, see Apolipoproteins

Lipoxins

- and neutrophil-glomerular endothelial cell interactions, F1

Lipoxygenase

- products generated during neutrophil-glomerular endothelial cell interactions, F1

Lithium

- analysis in renal tubular fluid (letter), F1229
- endogenous vs. exogenous, renal clearance and effects of dietary sodium levels, F718

Liver

- angiotensin II receptor AT_{1A} and AT_{1B} subtypes, F220
- enhanced metallothionein synthesis after uninephrectomy and compensatory renal growth, F643

M

Maturation

- glomerular, tight junction formation, tyrosine phosphorylation of protein ZO-1, F514
- metanephric apoptosis and kidney maldevelopment in bcl-2-deficient mice, F73
- mitochondrial oxidative enzymes in newborn proximal convoluted tubule, developmental regulation by thyroid hormones, F634

nitric oxide synthase and renin ontogeny in juxtaglomerular apparatus, F1164

of renal cortical Na⁺/H⁺ exchanger in newborn, effects of prenatal cortisol on, F710

of renal parenchyma, sites of vascular endothelial growth factor and its receptors in fetal and adult kidney, F240

sodium/hydrogen exchangers NHE1 and NHE3, ontogeny in renal cortex and effects of glucocorticoids, F815

MDR transporters, see P-Glycoprotein

Membrane proteins

- problems with cell surface biotinylation protocol, F285

Membranes

see also **Permeability**

- apical and basolateral, dual endocytosis of β_2 -microglobulin in proximal tubule cells, with endosomal convergence, F829
- brush-border

 - of proximal tubule, sodium-phosphate cotransport, defects in murine X-linked hypophosphatemia (review), F357
 - renal Na-P_i cotransporter, dietary phosphate-regulated, cloned sequence in rabbit, F626
 - renal Na-P_i cotransporter, parathyroid effects on, F784
 - renal, proline transport across, role of protein kinases, F155
 - renal, sodium-potassium cotransporter in X-linked Hyp mice with dietary P_i restriction, F1062

- plasma, in inner medullary collecting duct adaptation to dehydration, F53
- polarity, problems with cell surface biotinylation protocol, F285

Mesonephros

- expression of vascular endothelial growth factor and its receptors, F240

Metabolic alkalosis

- renal, and hyperparathyroidism from sustained intravenous neutral phosphate loading, F802

Metallothioneins

- enhanced renal and hepatic synthesis after uninephrectomy and compensatory renal growth, F643

Metanephros

- expression of vascular endothelial growth factor and its receptors, F240

Methodologies

- analysis of lithium in renal tubular fluid (letter), F1229
- cell surface biotinylation protocol, problems in membrane polarity studies, F285
- lithium clearance, use of endogenous vs. exogenous lithium and effects of dietary sodium levels, F718
- for continuous drug infusion into renal artery of rat in vivo, F967
- for estimating glomerular pressure, errors in using macromolecule sieving data, F736
- for measuring renal function, drawbacks of constant-infusion technique, F543

Methodologies (*continued*)

- for measuring small-animal renal blood flow, miniature ultrasonic transit-time flow probes, F175
- for renal sieving coefficients and fractional clearance, heterogeneous vs. conventional capillary network model, F972
- for study of lipid peroxidation in cell injury, lazaroid compounds, F30
- for studying P_i transport and metabolism, ^{31}P -NMR probe-perfusion system, F375

 β_2 -Microglobulin

- endocytosis in proximal tubule cells, endosomal convergence of apical and basolateral pathways, F829

Microvasculature

- renal
 - autoregulation in, interaction with cGMP-dependent dilators, F338
 - blood flow changes from myoglobin and hemorrhagic hypotension, role in myoglobin nephrotoxicity, F839
 - dietary protein level and effects of angiotensin II, F302
 - distribution of constitutive NO synthase isoforms in various mammal species, F885

Mineralocorticoids

- role in bicarbonate absorption in loop of Henle, F234

Mitochondria

- renal
 - oxidative enzymes in newborn proximal convoluted tubule, developmental regulation by thyroid hormones, F634
 - postischemic ATP production in, thioroxin effects on, F651

Modeling in physiology

- glomerular size selectivity, heterogeneous vs. conventional capillary network model, F972
- instantaneous and steady-state gains in tubuloglomerular feedback, F163

Models

- Madin-Darby canine kidney cells, H^+ gradient-dependent, calmodulin-regulated peptide transport system, F391
- mathematical
 - of renal inner medulla concentrating mechanism, effect of vasa recta flow, F698
 - of renal inner medulla concentrating mechanism, F680, F693
- for hypertension, *ren-2* transgenic rats [TGR(mRen2)27], angiotensin II dependence of tubuloglomerular feedback, F821
- for renal compensatory growth, hypertrophy vs. hyperplasia after unilateral vs. subtotal nephrectomy, F793
- for renal hypoplastic disease, bcl-2-deficient mouse, F73
- for renal proximal tubule, temperature-sensitive SV40-immortalized cell line, F435
- for study of electrogenic Na^+ and Cl^- transport in inner medullary collecting duct, cell line mIMCD-K2, F347

- for study of mesangial cell differential gene expression, transcriptional regulation of smooth muscle α -actin promoter, F760
- for study of renal D_{1A} dopamine receptor gene, LLC-PK₁ cells, F423

Monocytes

- 1α -hydroxylase, and $1\alpha,25\text{-(OH)}_2\text{D}_3$ deficiency in uremia, F746

Muscle, smooth

- α -actin promoter, in mesangial cell activation, regulatory CarG box motifs, F760

Muscle, smooth, vascular

- see also Endothelins; Vasoconstriction*
- in renal microcirculation, effects of cGMP-dependent dilators on autoregulatory responses, F338
- L-type calcium channels at renal resistance artery bifurcations, F251

Myoglobin

- nephrotoxicity from, during hemorrhagic hypotension, role of capillary blood flow changes, F839

N**Natriuresis**

- from intrarenal adrenomedullin infusion, F657
- postprandial, and peptide YY effects on renal function, F574
- pressure-induced, mechanisms: intrarenal regional blood flow and renal perfusion pressure, F404

Natriuretic peptides

- chloride channel activation, in proximal convoluted tubule, role of cGMP, F323

Nephritis

- anti-glomerular basement membrane, glomerulosclerosis after, role of early inflammation, F258

Nephrotic syndrome

- effects on apolipoprotein AI catabolism in rat, F532

Neutrophils, *see* Leukocytes, endothelial interactions**Newborn**

- see also Maturation*
- angiotensin II AT_2 receptors, mRNA distribution in developing kidney and adrenal gland, F922
- metanephric apoptosis and kidney maldevelopment in bcl-2-deficient mice, F73
- mitochondrial oxidative enzymes in proximal convoluted tubule, developmental regulation by thyroid hormones, F634
- ureteral obstruction, regulation of renal growth factors and clusterin by angiotensin AT_1 receptors, F1117

NHE, *see* Sodium/hydrogen exchangers**Nickel ion**

- responses of calcium receptors and $[\text{Ca}^{2+}]_i$ in osteoclasts, effects of caffeine on, F447

Nitric oxide

- effects on cytosolic K^+ in glomerular mesangial cells, F1081

- effects on renin secretion in juxtaglomerular granular cells, F948
- in perfused juxtaglomerular apparatus, F953
- glomerular and tubular interactions with adrenergic activity, F1004
- role in blunted pressure-dependent changes in vasa recta blood flow and natriuresis in SHR, F907

Nitric oxide synthase

- constitutive isoforms, renal distribution in various mammal species, F885
- inducible, expression in inner medullary collecting duct cells, endotoxin and cytokine effects on, F770
- ontogeny in juxtaglomerular apparatus, comparison with renin, F1164

Nonsteroidal anti-inflammatory drugs, *see* Indomethacin**Norepinephrine**

- effects on protein phosphatase 1 in proximal tubule, F279
- effects on renal microcirculation, and high-protein vs. low-protein diet, F302

Nuclear factors

- κB , in glomerular epithelial cells, activation by interleukin 1β and effects on laminin B2 chain mRNA, F273

Nucleotide receptors

- calcium-elevating, on cortical thick ascending limb, F496

Nucleotides

- extracellular, effects on $[\text{Ca}^{2+}]_i$ of cortical thick ascending limb, F496

O**Oncogenes**

- bcl-2, absence-induced metanephric apoptosis and kidney maldevelopment, F73

Ontogeny, *see* Maturation**Organic anions**

- basolateral transporter in proximal tubule S3 segment, F1109

Organic cation/proton exchanger

- renal, and proximal tubular secretion of cyclosporin analog, F46

Organic ion transport

- heat-shock-stimulated proximal tubular daunomycin secretion, F135

Organic osmolytes

- regulation, molecular basis (Cannon lecture), F983
- renal, response to acute water load or water deprivation, F227

Organogenesis

- of kidney, abnormalities in bcl-2-deficient mice, F73

Osmolarity

- effects on apical high-conductance K^+ channels in collecting tubule, F569

Osmolytes

- organic, renal, response to acute water load or water deprivation, F227

Osmotic regulation

- molecular basis (Cannon lecture), F983

Osteoclasts

- calcium receptors on, caffeine effects on, F447

Osteomalacia

in X-linked hypophosphatemia, murine
Hyp osteoblast phenotype abnormalities (review), F357

Osteopontin

phosphorylation defects in murine *Hyp*
homologue of X-linked hypophosphatemia, F357

22-Oxacalcitriol

therapeutic use in X-linked hypophosphatemia, F357

Oxalate

effects on chloride and fluid transport in
proximal tubule, F204

Oxidative cell injury

proximal tubular epithelial cell injury
from H_2O_2

role of lipid peroxidation, F30

Oxidative enzymes

mitochondrial, in newborn proximal convoluted tubule, developmental regulation by thyroid hormones, F634

P**PAH, see p-Aminohippuric acid clearance****Paracellular pathway**

within epithelial barrier, and transepithelial resistance response to tumor necrosis factor- α , F315

Parathyroid gland

hyperparathyroidism from sustained intravenous neutral phosphate loading, F802

Parathyroid hormone

cytosolic calcium rise from, in proximal tubule cells, mechanisms, F330
effects on proximal tubule Na-Pi cotransporter, F784

Parathyroid hormone receptors

renal, coordinate regulation with Na-Pi cotransporter, F1017

Peptide YY

effects on renal function in normal humans, F754

Peptides

H^+ -dependent transport, in MDCK cells, F391

Perfusion pressure

renal, effects on regional renal blood flow, F404

Permeability

of basolateral proximal convoluted tubule, for taurine, hypotonicity effects, F595

of epithelial cells, regulation by tumor necrosis factor- α , role of cAMP and protein kinase A, F315

of glomerular basement membrane, glomerular handling of circulating glycosylated albumin, F913

glomerular size selectivity, heterogeneous vs. conventional capillary network model, F972

Peroxidation

of lipids, role in proximal tubular epithelial cell injury from H_2O_2 , F30

pH

endosomal, effects on receptor-mediated albumin endocytosis in proximal tubule cells, F899

intracellular

AE1 anion exchanger variant NH_2 -terminal cytoplasmic domains in chicken, F503

in kidney cells, glucose effects on, F671

in proximal tubule, acid extrusion and CO_2/HCO_3^- alkalization, F179, F193

in thin ascending limb of Henle's loop, role of amiloride-sensitive Na^+/H^+ antiporter, F410

Phosphatase inhibitors

effects on Cl^- channels in proximal tubule epithelial cells, F323

Phosphates**inorganic**

cellular levels and membrane transport in renal tubular cells, F375
dietary, regulation of renal Na-Pi cotransporter, F626

dietary restriction, effects on renal Na^+-P_i cotransporter in X-linked *Hyp* mice, F1062

reabsorption in proximal tubule, parathyroid effects on Na-Pi cotransporter, F784

and sodium entry into distal convoluted tubule cells, F89

renal mitochondrial transport, postischemic thyroxine effects on, F651

sodium-dependent transport

inhibition by epidermal growth factor in opossum kidney epithelial cells, F309

in proximal tubule, defects in murine X-linked hypophosphatemia (review), F357

sustained intravenous dose, renal metabolic alkalosis and hyperparathyroidism from, F802

Phosphatidic acid

role in 1,2-diacylglycerol formation in mesangial cells, F997

Phosphatidylinositol 3-kinase

needed in hepatocyte growth factor-mediated chemotaxis and tubulogenesis, F1211

Phosphodiesterases

cAMP phosphodiesterase, protein kinase C-stimulated activation in collecting tubules, F808

Phospholipases**phospholipase C**

role in endothelin effects on juxtaglomerular renin release, F39

role in epidermal growth factor inhibition of Na-Pi cotransport in opossum kidney cells, F309

phospholipase D, activation by serotonin in mesangial cells, F997

Pituitary gland

angiotensin II receptor AT_{1A} and AT_{1B} subtypes, F220

and triiodothyronine stimulation of renal epidermal growth factor, F128

Plasma membrane adenosinetriphosphatases, see P-Glycoprotein**Platelet-activating factor**

actions on parietal sheet of renal glomerulus, F1053

effects on neutrophil-glomerular endothelial cell interactions, F1

Postpartum state

and atrial natriuretic peptide effects on kidney during pregnancy, F416

Potassium-ATPase

ouabain-sensitive, in rat nephron, distribution and properties, F1141

Potassium channels

of cortical collecting duct principal cell, Ca^{2+} /calmodulin-dependent protein kinase II effects on, F211

high-conductance, in cortical collecting tubule, effect of hyposmolarity on, F569

inwardly rectifying and ATP-sensitive ROMK isoforms, distribution in nephron, F1132

ROMK1, distribution in distal nephron, F1124

luminal, in proximal convoluted tubule, role in diffusional potassium reabsorption, F778

in renal tubules, blockade with barium, effects on tubuloglomerular feedback, F960

Potassium ion**see also Hydrogen-potassium****ATPase**

cytosolic, in glomerular mesangial cells, effects of NO, F1081

reabsorption in proximal convoluted tubule, role of diffusion, F778

and taurine permeability of proximal tubule basolateral membrane, F595

transport in cortical collecting duct, effects of basolateral metabolic acidosis, F490

urinary excretion, atrial natriuretic peptide effects on, changes in pregnancy, F416

Pregnancy, see Gestation; Embryo; Fetus**Pressure-induced natriuresis**

mechanisms: intrarenal regional blood flow and renal perfusion pressure, F404

Proline transport

across renal brush-border membrane, role of protein kinases, F155

Prostaglandin receptors

in cortical collecting ducts, F145

Prostaglandins**PGE₂**

in collecting duct lumen, effects on Na^+ and water transport, F1093
fetal levels after hypoxemia from reduced uterine blood flow vs. maternal N_2 inhalation, F868
renal synthesis, role in 5,6-epoxyeicosatrienoic acid effects on ion transport in collecting duct, F931

Prostanoids

role in renal function, chloride role in variable renal response to cyclooxygenase inhibition, F561

synthesis, acute inhibition, effects on renal hemodynamics and blood flow autoregulation, F468

Protein kinase inhibitors

effects on Cl^- channels in proximal tubule epithelial cells, F323

PKA inhibitor, effects on G protein inhibition of renal cortical $Na-HCO_3$ cotransporter, F461

Protein kinases

calcium/calmodulin-dependent protein kinase II
effects on collecting duct K⁺ channels, F211

role in proline transport across renal brush-border membrane, F155

PKA

role in tumor necrosis factor- α regulation of transepithelial permeability, F315

role in vasopressin downregulation of endothelin-1 binding in cortical collecting ducts, F385

PKA and PKC, roles in angiotensin II-dependent, ANF-mediated transport inhibition in proximal nephron, F730

PKC

effects on parathyroid hormone-induced rise in [Ca²⁺]_i in proximal tubule cells, F330

role in cAMP phosphodiesterase activation in renal collecting tubules, F808

role in proline transport across renal brush-border membrane, F155

Protein phosphatases

PP1, relation to dopamine and Na⁺-K⁺-ATPase in proximal tubule, F279

Protein tyrosine phosphatase

transmembrane type, expression along rat nephron segments, F1102

Proteins

in diet

dopaminergic renal excretory responses, aging effects on, F613

effects on renal function and renal microcirculatory effects of angiotensin II, F302

of membranes, problems with cell surface biotinylation protocol, F285
synthesis, blockade, cytoresistance from in proximal tubule cells, F1154

Proteinuria

apolipoprotein AI catabolism sites and rate in nephrotic rat, F532

in early anti-glomerular basement membrane nephritis, as predictor of outcome, F258

Proton transport

in proximal tubule pH_i regulation, effects of luminal and basolateral CO₂/HCO₃⁻, F179, F193

Protooncogenes

early-growth-related, after unilateral vs. subtotal nephrectomy, F793

Purinergic receptors, see Nucleotide receptors**R****Reactive oxygen species**

proximal tubular epithelial cell injury from H₂O₂, role of lipid peroxidation, F30

Regulatory volume decrease

and taurine permeability of proximal tubule basolateral membrane, F595

Renal nerves

role in nitric oxide influence in glomerular microcirculation and proximal tubule, F1004

Renin

juxtaglomerular secretion
endothelin effects on, F39

NO effects on isolated granular cells, F948

NO effects on perfused juxtaglomerular apparatus, F953

ontogeny in juxtaglomerular apparatus, comparison with NO synthase, F1164

plasma activity

effects of vertebral artery-infused angiotensin II, F296

time- and dose-related effects of indomethacin or meclofenamate, F468

plasma levels, effects of peptide YY on, F754

Renin-angiotensin system

antinatriuretic and volume-expanding actions, F296

role in angiotensin II generation in isolated glomerulus, F266

in temperature-sensitive SV40-immortalized proximal tubule cell line, F435

Resistance arteries

renal, L-type calcium channels at bifurcations, hemodynamic role, F251

Rickets

X-linked hypophosphatemic, murine
Hyp homologue, osteoblast phenotype abnormalities (review), F357

Ryanodine receptors

and caffeine effects on calcium receptors and [Ca²⁺]_i in osteoclasts, F447

S**Serotonin**

activation of phospholipase D in mesangial cells, F997

and protein-induced dopaminergic renal excretory responses, aging effects on, F613

Serotonin receptors

5-HT_{2A}, identification in glomerular mesangial cells, F122

Shock, see Heat stress**Signal transduction**

phospholipase C pathway, role in epidermal growth factor inhibition of Na-P_i cotransport, F309

protein ZO-1 tyrosine phosphorylation during glomerular tight junction formation, F514

in tumor necrosis factor- α -induced regulation of transepithelial resistance, F315

Signaling mechanisms

in proximal tubule CO₂/HCO₃⁻ induced pH_i changes, F193

Simian virus 40

SV40-immortalized proximal tubular cells, renin-angiotensin components in, F435

Skin

role in apolipoprotein AI catabolism, in nephrotic rat, F532

Sodium-bicarbonate cotransporter

in kidney, role of G proteins in regulation, F461

Sodium channels

in cortical collecting duct, feedback regulation and response to cAMP, F480
in inner medullary collecting duct cell line mIMCD-K2, F347

Sodium chloride

convective uphill renal transport
mathematical model, F680, F693
mathematical model, effect of vasa recta flow, F698

depletion, effects on angiotensin II production in isolated glomerulus, F266

transport, in proximal convoluted tubule, chloride/base exchange in superficial vs. juxtamedullary nephrons, F847

Sodium-chloride cotransport

and sodium entry into distal convoluted tubule cells, F89

Sodium-chloride-potassium cotransport

in macula densa, and effects of barium ions on tubuloglomerular feedback, F960

role in electrogenic chloride secretion in inner medullary collecting duct cell line mIMCD-K2, F854

Sodium/hydrogen exchange

amiloride-sensitive, in thin ascending limb of Henle's loop, F410

Sodium/hydrogen exchangers

NHE1 and NHE3, ontogeny in renal cortex and effects of glucocorticoids, F815

in proximal tubule

postnatal maturation, effects of prenatal cortisol on, F710

role in proximal tubule pH_i regulation, F179, F193

Sodium ion

dietary

effects on endogenous lithium clearance, F718

effects on protein-induced dopaminergic renal excretory responses, aging effects on, F613

effects on cellular P_i and ATP levels in renal tubular cells, F375

renal/urinary excretion

see also **Natriuresis**

atrial natriuretic peptide effects on, changes in pregnancy, F416

effects of vertebral artery-infused angiotensin II, F296

roles of endothelin receptor subtypes, F455

transport in cortical collecting duct
effects of basolateral metabolic acidosis, F490

effects of luminal prostaglandin E₂, F1093

transport in distal convoluted tubule, entry mechanisms, F89

transport, electrogenic, in inner medullary collecting duct cell line mIMCD-K2, F347

vasopressin effects on conductance in luminal and basolateral cortical collecting duct, F20

Sodium phosphate 4 mRNA

inhibition by epidermal growth factor in opossum kidney epithelial cells, F309

Sodium-phosphate cotransport

inhibition by epidermal growth factor in opossum kidney epithelial cells, F309

in proximal tubule brush-border membrane

defects in murine X-linked hypophosphatemia (review), F357

Sodium-phosphate cotransporters, renal

coordinate regulation with parathyroid hormone receptor, F1017

dietary phosphate-regulated, cloned sequence, F626

in mouse, cloning, genetic mapping, and expression analysis, F1038

in X-linked *Hyp* mice, dietary restriction effects on, F1062

parathyroid effects on, F784

Sodium-potassium-ATPase

α - and β -subunits, upregulation by glucocorticoid in proximal tubule cell, F862

relation to dopamine and protein phosphatase 1 in proximal tubule, F279

Sodium-potassium cotransporter, renal

in X-linked *Hyp* mice, effects of dietary P_i restriction, F1062

Sodium/proton exchange

and sodium entry into distal convoluted tubule cells, F89

Sodium/proton exchanger

isoforms in medullary thick ascending limb, F1224

Sorbitol

osmotic regulation, F983

Stilbenes

effects on gating activity of Cl^- channels in proximal tubule epithelial cells, F323

Stomach

parietal cells, hydrogen-potassium ATPase β -subunit, expression in kidney, F363

Stress, see Heat stress

SV40-immortalized cells

proximal tubular, renin-angiotensin components in, F435

T

Taurine

osmotic regulation, F983
permeability of proximal tubule basolateral membrane and effects of hypotonicity, F595

Thermal stress, see Heat stress

Thyroid hormones

role in developmental regulation of mitochondrial oxidative enzymes in newborn proximal convoluted tubule, F634

thyroxin, effects on postischemic ATP production in renal mitochondria, F651

triiodothyronine, stimulation of renal epidermal growth factor, F128

Tight junctions

formation in glomeruli, role of tyrosine phosphorylation of protein ZO-1, F514

Transepithelial resistance response to tumor necrosis factor- α

role of cAMP and protein kinase A, F315

Transforming growth factor- β 1

in neonatal ureteral obstruction, regulation by AT_1 receptors, F1117

Transport

see also specific substance

excretory, P-glycoprotein-mediated proximal tubular secretion of cyclosporin analog, F46

potassium, sodium, and electrogenic, in cortical collecting ducts, effects of basolateral metabolic acidosis, F490

in proximal nephron, inhibition by atrial natriuretic factor, role of angiotensin II, F730

in proximal tubule S3 segment, acid extrusion and CO_2/HCO_3^- alkalization in pH_i regulation, F179, F193

renal, of organic substrates, effect of heat shock on daunomycin excretion, F135

renal concentration mechanism mathematical model, F680, F693

mathematical model, effect of vasa recta flow, F698

Tubulogenesis

hepatocyte growth factor-mediated, requirement for phosphatidylinositol 3-kinase, F1211

Tubuloglomerular feedback mechanism

and cGMP-dependent dilator effects on preglomerular vasculature, F338

Tumor necrosis factor- α

effects on neutrophil-glomerular endothelial cell interactions, F1

effects on nitric oxide synthase expression in inner medullary collecting duct cells, F770

transepithelial permeability regulation by, role of cAMP and protein kinase A, F315

Tyrosine phosphorylation

of tight junction protein ZO-1, in glomerular tight junction formation, F514

U

Urea

transport in inner medullary collecting ducts, effects of low-protein diet, F1218

Ureteric bud

metanephric apoptosis and kidney maldevelopment in bcl-2-deficient mice, F73

Urine

calcium oxalate monohydrate crystal adhesion to renal epithelial cells, inhibition by urinary anions, F604
concentration

inner medullary collecting duct adaptation to dehydration, F53

mathematical model of renal inner medulla, F680, F693

mathematical model of renal inner medulla, effect of vasa recta flow, F698

excretion of organic osmolytes after water loading and water deprivation, F227

fetal production, and endocrine levels, after hypoxemia from reduced uterine blood flow vs. maternal N_2 inhalation, F868

Urine flow

effects of vertebral artery-infused angiotensin II, F296

Urodilatin

chloride channel activation, in proximal convoluted tubule, role of cGMP, F323

V

Valtin, Heinz

recipient of 1995 Robert W. Berliner Award for Excellence in Renal Physiology, F541

Vascular endothelial growth factor

sites of expression in fetal and adult kidney, F240

Vascular endothelial growth factor receptors

sites of expression in fetal and adult kidney, F240

Vascular permeability factor

sites of expression in fetal and adult kidney, F240

Vascular resistance

regulation by kidney, roles of endothelin receptor subtypes, F455

Vasoactive factors

renal hemodynamics and cyclooxygenase inhibition, F468

Vasoconstriction

renal

in afferent arterioles, role of calcium influx, F876

dietary protein level and effects of angiotensin II, F302

role of L-type calcium channels at renal resistance artery bifurcations, F251

Vasodilators

cGMP-dependent, effects on preglomerular vasculature, F338

Vasopressin

effects on apical high-conductance K channels in collecting tubule, F569

effects on electrogenic chloride secretion in inner medullary collecting duct cell line mIMCD-K2, F854

effects on endothelin-1 binding to ET_B receptor in cortical collecting ducts, F385

fetal levels after hypoxemia from reduced uterine blood flow vs. maternal N_2 inhalation, F868

role in ion conductances in luminal and basolateral cortical collecting duct, F20

water conductivity from, in cortical collecting duct, effect of prostaglandins, F1456

Vasopressin receptors

calcium-mobilizing, in renal medulla, F1198

Vasotocin

effects on distal nephron whole cell currents, F64

Vitamin D

$1\alpha,25-(OH)_2D_3$

deficiency in uremia, and kinetics of extrarenal 1α -hydroxylase, F746

Vitamin D (*continued*)

therapeutic use in X-linked hypophosphatemia, F357

Volume regulatory decrease, see

Regulatory volume decrease

W

Walter B. Cannon lecture, F981, F983

Water

transport in cortical collecting ducts,
effects of luminal prostaglandin E₂,
F1093

Water channel proteins

presence in cysts from autosomal dominant polycystic kidney, F398

Water channels

aquaporin-1 localization in nephron and renal vascular structures, F1023

Water deprivation

renal organic osmolyte response to, in humans, F227

Water load

renal organic osmolyte response to, in humans, F227

Water permeability

inner medullary collecting duct adaptation to dehydration, F53

X**X-linked hypophosphatemia**

effects of low-phosphate diet on renal Na⁺-P_i cotransporter, F1062

murine *Hyp* homologue, osteoblast phenotype abnormalities (review), F357

Author Index to Volume 37

A

Aarhus, L. L., F657
 Abe, K., F410, F1148
 Abramow, M., F53
 Ackermann, M., F39
 Adebajo, O. A., F447
 Agre, P., F1023
 Aguirre, J., F1087
 Ahmed, A., F746
 Ahn, K. Y., F99
 Akagi, Y., F1102
 Anderson, J. M., F514
 Anderson, M. E., F375
 Ando, Y., F490, F808, F1093
 Aoki, Y., F279
 Arai, M., F1102
 Arant, B. S., Jr., F266
 Arar, M., F309
 Ariano, M. A., F1185
 Arisz, L., F543
 Armando, I., F1087
 Aronson, P. S., F204, F815
 Arruda, J. A. L., F461
 Asano, Y., F490, F808, F1093
 Ashkar, Z. M., F1218
 Assael, B. M., F793
 Atiyeh, B. A., F266
 Aviles, D. H., F279
 Avioli, L., F357

B

Bachinsky, D., F435
 Bachinsky, D. R., F398
 Bachmann, S., F885, F1164
 Bandini, L. G., F613
 Barlet-Bas, C., F1141
 Barontini, M., F1087
 Barros, E. J. G., F1211
 Bason, L. M., F227
 Bastin, J., F634
 Baudouin-Legros, M., F496
 Baum, M., F309, F815, F847
 Beauflis, H., F793
 Bell-Quilley, C. P., F561
 Belott, T. P., F876
 Bendayan, M., F913
 Bentley, M. D., F404
 Berry, C. A., F723
 Biber, J., F309, F626, F784, F1017, F1062
 Bichara, M., F1224
 Biemesderfer, D., F815
 Bienkowski, M. J., F1132
 Blantz, R. C., F1004
 Bloch-Faure, M., F1053
 Block, J. H., F1132
 Bloom, S., F754
 Boer, P., F1229
 Boer, W. H., F1229
 Boim, M., F525
 Boim, M. A., F1132
 Bomsztyk, K., F273
 Borensztein, P., F1224
 Boron, W. F., F179, F193
 Bosse, H. M., F885
 Botkin, S. J., F1185
 Bourdeau, J. E., F1038
 Bouriquet, N., F338
 Boydston, I., F651
 Brace, R. A., F868

Brady, H. R., F1
 Brandsch, M., F391
 Brandt, R. R., F455
 Bravo, E., F746
 Brazy, P. C., F375
 Brenner, B. M., F1132
 Breton, S., F595
 Breyer, M. D., F931
 Briggs, J. P., F948, F953, F1164
 Brogden, A. P., F13
 Brouhard, B. H., F302
 Brown, D., F398, F435
 Buffin-Meyer, B., F1141
 Bunting, B., F854
 Burg, M. B., F983
 Burnatowska-Hledin, M. A., F1198
 Burnett, J. C., Jr., F455, F657
 Burtin, M., F793
 Bushel, P., F760

C

Cain, B. D., F363
 Calam, J., F754
 Callaghan, J. M., F363
 Campbell, W. G., F363
 Cantley, L. G., F1211
 Capasso, G., F234
 Capdevila, J. H., F931
 Caplan, M. J., F285
 Cappuccio, F. P., F718
 Carey, R. M., F1185
 Caron, N., F468
 Carone, F. A., F398
 Carpenter, T., F651
 Casellas, D., F338
 Castellano, A., F525
 Cernacek, P., F416
 Chambers, S. T., F227
 Champigneulle, A., F1070
 Chen, L. K., F179, F193
 Cheng, S.-L., F357
 Cheval, L., F1141
 Chevalier, R. L., F1117
 Chobanian, M. C., F375
 Chong, S. S., F1038
 Christensen, E. I., F1023
 Chung, K. H., F1117
 Clauser, E., F922
 Clavell, A. L., F455
 Cock, M. L., F868
 Cogan, M. G., F723
 Cohen, M., F829
 Colflesh, D., F251
 Cook, A. K., F876
 Cooper, M. E., F588
 Corvol, P., F922
 Couser, W. G., F273
 Cox, J. V., F503
 Cox, K. H., F503
 Cunha, M. J., F1211
 Curran, K. A., F363

D

Dagan, D., F323
 Dahl, R., F829
 Dantzer, W. H., F1109
 Darvish, N., F323
 Davis, J. A., F110
 Deen, W. M., F736

Delmez, J., F746
 Deng, X., F175
 Derman, M. P., F1211
 Dewitt, D. L., F1198
 Diamant, D., F435
 Djouadi, F., F634
 Doucet, A., F1141
 Dunbar, L. A., F285
 Dunn, S. T., F1038
 Dusso, A., F746

E

Edwards, A., F736
 Edwards, R., F754
 Elalouf, J.-M., F1070
 Elzie, J. L., F770
 Emmanouel, D. S., F398
 Ene-Iordache, B., F972
 Evans, K. K., F1109

F

Falck, J. R., F931
 Farquhar, M. G., F514
 Felder, R. A., F1185
 Fiksen-Olsen, M. J., F404
 Fildes, R. D., F279
 Fischer, E., F1164
 Flamion, B., F53
 Folkard, E., F718
 Fourmanoir, P., F468
 Fransen, R., F1229
 Fraser, J., F643
 Freudinger, R., F899
 Fricker, G., F46
 Friedman, P. A., F89
 Frindt, G., F480
 Froissart, M., F1224
 Fuchs, E., F240
 Fujiwara, I., F410
 Fukagawa, N. K., F613
 Furuya, H., F490

G

Gabbai, F. B., F1004
 Gallieni, M., F746
 Ganapathy, V., F391
 Ganz, M. B., F1081
 Garcia, N. H., F730
 Garnovskaya, M. N., F122
 Garvin, J. L., F730
 Gasc, J.-M., F922
 Gaznabi, A. K. M., F279
 Gekle, M., F899
 Genard, J., F468
 Gentry, D., F815
 Gesek, F. A., F89
 Ghatei, M., F754
 Ghitescu, L., F913
 Giebis, G., F204, F211, F234
 Gillies, R. J., F671
 Glatz, M., F802
 Gleeson, P. A., F363
 Goldberg, H., F110
 Goligorsky, M. S., F251
 Gomez, R. A., F1117
 Gordienko, D., F251
 Gordon, K. L., F273
 Gottardi, C. J., F285
 Green, R., F778

Greenberg, S. G., F948, F953
 Grenader, A. C., F423
 Gröne, H.-J., F240
 Guillery, E. N., F710
 Gupta, A., F357

H

Halstead, L., F357
 Hammerman, M. R., F73, F128
 Hanaoka, K., F20
 Hanson, A. S., F553
 Harding, R., F868
 He, X., F948
 He, X.-R., F953
 Healy, D. P., F220, F423
 Hébert, R. L., F145
 Hebert, S. C., F525, F1124, F1132
 Hellman, P., F435
 Helmchen, U., F940
 Henrich, W. L., F266
 Herman, A., F468
 Herman, W. H., F760
 Herrington, J., F1154
 Heublein, D. M., F657
 Ho, K., F1132
 Hoffmann, F., F839
 Homma, S., F808
 Hooper, S. B., F868
 Hoyer, E., F532
 Hruska, K. A., F357
 Huang, C. L.-H., F447
 Hughes, M. R., F1038
 Hulter, H. N., F802

I

Igarashi, Y., F410, F1148
 Imai, E., F1102
 Imai, M., F20
 Imbert-Teboul, M., F1070
 Ingelfinger, J. R., F435
 Inman, S. R., F302
 Inoue, C. N., F410
 Inoue, T., F1102
 Inscho, E. W., F876
 Isozaki, T., F1218
 Ito, O., F1148
 Iwata, M., F1154

J

Jacobson, H. R., F931
 Jefferson, D. M., F398
 Jen, J. F., F680, F693
 Jöhren, O., F240
 Jones, H., Jr., F532
 Jose, P. A., F279, F710
 Jougasaki, M., F657
 Jung, F., F435

K

Kaissling, B., F784
 Kamada, T., F1102
 Kamimura, S., F746
 Kaneko, T., F1102
 Kannan, G. S., F770
 Karniski, L. P., F710
 Kashgarian, M., F13, F651
 Kasner, S. E., F1081
 Katagiri, H., F385

Kaysen, G. A., F532
 Kempson, S. A., F784
 Khan, M. A., F363
 Kibble, J. D., F778
 Kilav, R., F1017
 Kimura, K., F1009
 Kissane, J., F258
 Kizer, N. L., F347, F854
 Kleinknecht, C., F793
 Komers, R., F588
 Kondo, Y., F410, F1148
 Kone, B. C., F99, F770
 Koomans, H. A., F1229
 Koomen, G. C. M., F543
 Koropatnick, J., F643
 Korsmeyer, S. J., F73
 Koss, M., F330
 Kozak, C. A., F1038
 Krämer, B. K., F39
 Kramp, R. A., F468
 Krapf, R., F802
 Kraut, J. A., F581
 Kristjansson, K., F1038
 Kriz, W., F1164
 Kubokawa, M., F211
 Kullmer, J., F240
 Kumar, C. C., F760
 Kurihara, H., F514
 Kurokawa, K., F20, F385
 Kurscheid-Reich, D., F997
 Kurtz, A., F39
 Kusano, E., F808

L

Laekeman, G., F468
 Laghmani, K., F1224
 Lamas, S., F1
 Laouari, D., F793
 Laprade, R., F595
 Larson, T. S., F907
 Laughlin, K. V., F315
 Layton, H. E., F163
 Lebrun, F., F1053
 Lee, M. A., F613
 Lee, W.-S., F1124
 Lee, Y.-C., F862
 Lefkowitz, J. B., F258
 Leibach, F. H., F391
 Leonard, R., F604
 Lerman, L. O., F404
 Lever, M., F227
 Levi, M., F309, F784
 Lewis, B., F347, F854
 Lien, Y.-H. H., F671
 Lieske, J. C., F604
 Lin, H.-H., F862
 Linas, S. L., F553
 Liu, L., F1038
 Llorens-Cortes, C., F922
 Lockhart, J. C., F907
 Londoño, I., F913
 Lötscher, M., F784
 Lytton, J., F525

M

MacGregor, G. A., F718
 Malvey, K., F1004
 Mandon, B., F1070
 Marano, C. W., F315
 Marchetti, J., F1053
 Margulies, K. B., F455
 Markandu, N. D., F718
 Markovich, D., F626
 Marsden, P. A., F1

Marsolais, M., F595
 Martel, J., F1062
 Martial, S., F1218
 Martinez-Zaguilan, R., F671
 Marumo, F., F1046
 Marunaka, Y., F64
 Massry, S. G., F330
 Mathews, M. S., F710
 Matsubara, M., F1
 Maunsbach, A. B., F1023
 McGiff, J. C., F561
 McNicholas, C. M., F211
 Megyesi, J., F664
 Mehta, S., F754
 Meneton, P., F1053
 Merlet-Benichou, C., F634
 Meyer, J. M., F1198
 Meyer, T. W., F82
 Mildenerberger, S., F899
 Miller, D. S., F46
 Miller, S. B., F128
 Mitchell, K. D., F821
 Mohaupt, M. G., F770
 Molitoris, B. A., F829
 Moore, L. C., F163, F251
 Moriyma, T., F1102
 Morley, G. E., F569
 Morrison, A. R., F1177
 Moss, S., F754
 Motel, V., F793
 Mulay, S., F416
 Mullin, J. M., F315
 Mullins, J. J., F821
 Mundel, P., F885
 Murer, H., F309, F626, F784,
 F1017, F1062
 Muto, S., F490

N

Najjar, S., F651
 Nakahari, T., F64
 Nakao, A., F385
 Nally, J. V., Jr., F302
 Naruse, M., F20
 Navar, L. G., F876
 Naveh-Manly, T., F1017
 Nebigil, C. G., F122
 Neckel, M., F839
 Nielsen, S., F1023
 Nigam, S. K., F1211
 Noguchi, T., F1102
 Noland, T. D., F931
 Nonoguchi, H., F1046
 Norbis, F., F626
 Nowicki, S., F1087

O

O'Connell, D. P., F1185
 Ohishi, K., F876
 Oka, Y., F385
 Omata, K., F1148
 Omer, S., F416
 Orłowski, J., F710
 O'Rourke, D. A., F423

P

Page, W. V., F710
 Pagtalunan, M. E., F82
 Paillard, M., F1224
 Pallone, T., F1023
 Palmer, L. G., F480
 Papayianni, A., F1
 Parekh, N., F967
 Paulais, M., F496

Payne, N., F754
 Pazianas, M., F447
 Pedina, J., F839
 Perego, C., F626
 Perez-Reyes, E., F525
 Perrone, R. D., F398
 Peterson, L. N., F145
 Peterson, O., F1004
 Pitman, E. B., F163
 Plate, K. H., F240
 Playford, R. J., F754
 Price, P. M., F664
 Price, S. R., F1218
 Przekwas, J., F155

Q

Qiu, Y.-Y., F461
 Quigley, R., F847
 Quillen, E. W., Jr., F296

R

Rajerison, R., F1141
 Rajerison, R. M., F1053
 Ramos, S. I., F1185
 Rasch, R., F82
 Rasmussen, H., F13, F997
 Raymond, J. R., F122
 Regnier, L., F145
 Reid, I. A., F296
 Remuzzi, A., F972
 Renfro, J. L., F135
 Rennke, H. G., F82
 Rentch, R., F754
 Reuben, M., F581
 Richardson, C. A., F273
 Riegger, G., F39
 Rifas, L., F357
 Risau, W., F240
 Ritman, E. L., F404
 Ritthaler, T., F39
 Robillard, J. E., F710
 Robson, R. A., F227
 Roeser, N. F., F110
 Rogers, S. A., F73, F128
 Romero, J. C., F404
 Ronco, P. M., F1164
 Ruiz, O. S., F461
 Russell, J., F854
 Russo, L. M., F315

S

Sabolić, I., F398
 Sachs, G., F581
 Safirstein, R. L., F664
 Saggi, S., F664
 Sakairi, Y., F490, F931
 Salahudeen, A. K., F30
 Sampson, B., F718
 Sandberg, S. M., F657
 Sands, J. M., F1218
 Scandrett, A. L., F258
 Schmidt, G., F839
 Schnermann, J., F960, F1164
 Schnermann, J. B., F948, F953
 Scholz, H., F39
 Schramm, U., F46
 Schreiner, G. F., F1177
 Schroeder, R., F940
 Schwöbel, J., F770
 Segal, A. S., F204
 Seikaly, M. G., F266
 Shalmi, M., F1229
 Shankar, V. S., F447
 Shanmugam, S., F922

Sheu, J.-N., F847
 Shi, P., F1198
 Short, T. H., F315
 Shpun, S., F1109
 Shuck, M. E., F1132
 Sibley, D. R., F1185
 Sidhu, A., F1009
 Siegel, N., F651
 Siga, E., F1070
 Silberagl, S., F899
 Silver, J., F1017
 Silver, R. B., F480
 Simon, B., F447
 Simon, M., F240
 Simonson, M. S., F760
 Singer, D. R. J., F718
 Sizeland, P. C. B., F227
 Slatopolsky, E., F746
 Slightom, J. L., F1132
 Slobodyansky, E., F279
 Smith, B. L., F1023
 Smith, W. L., F1198
 Smogorzewski, M., F330
 Smolka, A. J., F363
 Snellen, H., F175
 Sorenson, C. M., F73
 Sorribas, V., F626
 Spielman, W. S., F1198
 Spring, K. R., F53
 Spurney, R. F., F122
 Stahl, R. A. K., F940
 Stange, G., F626
 Stanton, B. A., F347, F854
 Starr, F., F581
 Stephenson, J. L., F680, F693,
 F698
 Stingo, A. J., F455
 Stoner, L. C., F569
 Stowe, N. T., F302
 Strick, D. M., F404
 Sundin, D. P., F829
 Sussman-Turner, C., F135

T

Tabei, K., F490
 Tada, K., F410
 Takahashi, N., F410, F1148
 Takata, S., F1
 Takeda, S., F808
 Takemoto, F., F385
 Takeuchi, A., F13
 Tan, S.-S., F363
 Tanaka, H., F330
 Tang, M.-J., F862
 Tang, S.-S., F435
 Tenenhouse, H. S., F1062
 Terada, Y., F1046
 Terzi, F., F793
 Tetsuka, T., F808
 Teulon, J., F496
 Tewarson, R. P., F680, F693,
 F698
 Thomas, M. E., F1177
 Thomson, S. C., F1004
 Throckmorton, D. C., F13, F997
 Ticozzi, C., F793
 Toback, F. G., F604
 Toh, B.-H., F363
 Tomita, K., F1046
 Troyanovskaya, M., F220

U

Uchida, S., F385
 Ueda, N., F1102

Unwin, R., F234, F754
Unwin, R. J., F1081
Upton, P., F754

V

Vachvanichsanong, P., F1009
van Acker, B. A. C., F543
Vandorpe, D., F854
van Driel, I. R., F363
Varma, D. R., F416
Venkatachalam, M. A., F110
Verri, T., F626
Vetterlein, F., F839
Vidt, D. G., F302
Vilar, J., F634

W

Walsh, K., F760
Wang, H., F680, F693, F698
Wang, L.-J., F461
Wang, T., F204
Wang, W., F211
Wang, X., F671
Wareing, M., F778
Wead, L., F1004
Wei, C.-M., F657
Weinberg, J. M., F110
Welch, W. J., F175
Wenger, R., F46
Wijkhuisen, A., F634
Wilcox, C. S., F175

Wilson, R. W., F778
Winaver, J., F323
Windhager, E. E., F480
Wingo, C. S., F363
Wlodek, M. E., F868
Wolf, G., F940
Wong, K. R., F723

X

Xia, C., F1102

Y

Yang, T., F1046
Yang, Y., F1132

Ye, M.-Q., F220
Yin, K., F561
Yoshida, I., F808
Yoshitomi, K., F20
Yoshizawa, N., F13
Younes-Ibrahim, M., F1141
Young, J. B., F613
Yu, A. S. L., F525

Z

Zager, R. A., F1154
Zahner, G., F940
Zaidi, M., F447
Zalups, R. K., F643
Zelikovic, I., F155
Ziyadeh, F. N., F940